

Future Directions for Desert Tortoise Monitoring

Making it more useful

DTMC

Accomplishments

- Productive and contentious scientific collaboration among FWS, USGS, UNR and others
- Highly effective training program to standardize and improve data collection
- A scientifically defensible study design and data collection protocol
- Powerful statistical density, occupancy, geospatial and trend analysis tools
- Credible rangewide and recovery unit baseline density estimates
- Encouragement of a creative experimental environment

Recovery Criteria

- scientifically credible monitoring plan and a 25 yr. stable or upward trend
- enough habitat properly managed habitat to ensure long-term viability
- population management within each recovery unit to insure stable or increasing populations
- regulatory or land management to provide for long-term protection of desert tortoises and their habitat
- the population in the recovery unit is unlikely to need protection under the ESA in the foreseeable future.

Next Steps for Recovery



Next Steps

- Effectiveness of management actions (i.e. fencing, removal of grazing and law enforcement)
- Identify threats, indicators of threats and method of action
- Identify indicators of habitat health
- Think outside the box:
 - » Plan B

Knowing The Future for Tortoise Monitoring



Why Are We Monitoring?

- FWS - ESA, recover and delist species
- Federal Land Managers - ESA, meeting organic mandate, adapt management for efficiency and economy
- Biologists - answer patrons questions, understand nature of tortoise biology
- Stakeholders - establish the validity and conservation value of restrictions, valid test of claims
- Environmental Groups - Compliance with ESA, recovery of the tortoise/desert

Next Implementation Steps for Monitoring

- Improve training and data collection management
- Improve database management including QA/QC
- Improve data collection protocols including collection of additional data
- Evaluate the appropriate spatial scales for the study design

Next Steps for Monitoring Analysis

- Mine existing data for spatial analysis of occupancy, live and dead tortoises, weather data
- Cooperate with land managers and stakeholders in creating spatial management and use strata
- Solicit participation of additional unconventional analyses
- Continue to develop analytical tools

Next Administrative Steps for Tortoise Monitoring

- Secure adequate funding for data collection, QA/QC, analysis and experimental initiatives
- Cooperate with administrative requirements for monitoring
- Assist in identifying land status in a way that is meaningful for tortoise biology
- Cooperate with creative and experimental, scientific, environmental and stakeholder initiatives.

Raising Adequate Funding

